NASA Procedural Requirements

COMPLIANCE IS MANDATORY

NPR 7120.8
Effective Date:
February 05, 2008
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February 05, 2013

Printable Format (PDF)

Request Notification of Change (NASA Only)

Subject: NASA Research and Technology Program and Project Management Requirements (w/change 1 dated 11/24/10)

Responsible Office: Office of the Chief Engineer

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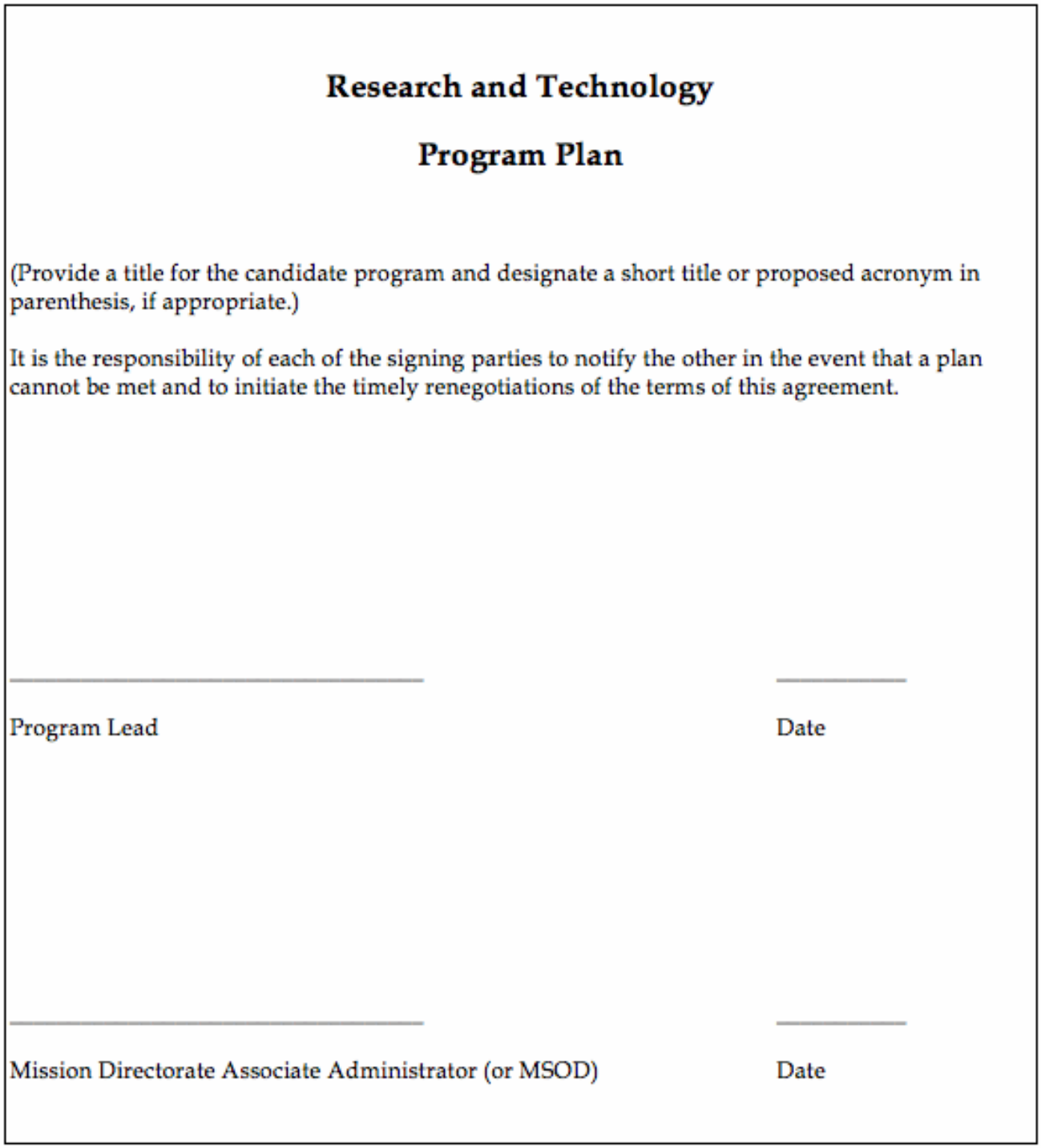
Appendix E. R&T Program Plan Template

The MDAA or MSOD may authorize use of an alternative format with compatible content.

E.1 R&T Program Plan Title Page



Research and Technology

Program Plan

(Provide a title for the candidate program and designate a short title or proposed acronym in parenthesis, if appropriate.)

It is the responsibility of each of the signing parties to notify the other in the event that a plan cannot be met and to initiate the timely renegotiations of the terms of this agreement.

_____ _____

Program Lead Date

_____ _____

Mission Directorate Associate Administrator (or MSOD) Date

Figure E-1 R&T Program Plan Title Page

E.2 R&T Program Plan Template RESEARCH AND TECHNOLOGY PROGRAM PLAN (PROGRAM TITLE)

1.0 R&T Program Overview

1.1 Introduction

Briefly state the background of the program and its current status, including the results of formulation activities, decisions, and documentation.

1.2 Program Goals, Objectives and Metrics

State the program goals and specific objectives with clear traceability to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan. Performance goals, and performance indicators, and their relationship to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan, should be expressed in an objective, quantifiable, and measurable form. Goals and objectives should include commitment to safety and mission success.

1.3 Customer/Beneficiary and Stakeholder Definition and Advocacy

State the main customers/beneficiaries and stakeholders of the program (e.g., PI, science community, technology community, public, education community, Chief Information Officer (CIO), MD, MSO, OCE, OSMA, OCFO, and NASA Centers) and the process to be used to ensure customer/beneficiary and stakeholder advocacy.

1.4 Program Authority and Management Structure

Identify the Program Lead. Identify the location (Center or Headquarters) where the Program Lead resides and each Center's responsibilities, if relevant. Identify the Governing Program Management Committee or Council(s) for oversight of the projects within the program and the approving official for projects.

Define the management process (NPR 7120.8, etc.) this program and any initial program elements will adhere to. Identify whether each associated R&T Project will be managed as a Technology Development Project or as an R&T Portfolio Project.

Briefly describe the architecture of the program and its major components. If applicable, describe how the major components are intended to operate together and with legacy systems. Describe the way the program will relate to other institutions within NASA as well as outside of NASA. Identify the responsibilities of each NASA Center as they relate to their respective requirement allocations referenced in PROGRAM REQUIREMENTS/OBJECTIVES below, if relevant. Describe the process by which projects are formulated, approved, or terminated.

Organization. Describe the NASA organizational structure for managing the program and projects from the MDAA or MSOD to the Project Leads. Include lines of authority and reporting; illustrate the organization graphically. If elements or the entire program are managed collectively within a MD (or MSO) as Cross-Program Research, reference the MDAA or MSOD approved Cross-Program Research Plan (see Appendix F) in lieu of providing the detailed organizational structure.

Responsibilities. Define management responsibilities of the MD or MSO, the Program Lead, and Project Lead, including the authority of these persons, as described in NPR 7120.8, NASA Research and Technology Program and Project Management Requirements. Indicate their responsibilities for developing, concurring, and approving principal program documents, such as the Formulation Authorization Document, the Program Plan, Project Plan, NRAs, Request for Proposals (RFPs) and other contract-related documents, reports associated with major reviews, and other key activities.

2.0 R&T Program Baseline

2.1 Program Requirements/Objectives

Document the program requirements/objectives, including performance requirements/objectives, and technical success criteria, in an objective, quantifiable, and measurable form. For multiple projects within a program, describe the way in which the program requirements will be allocated to the respective projects, if applicable. The approving authority is required to document high-level requirements/objectives and how these requirements/objectives flow down from the program to each project as they are formulated. If the program characteristics indicate a greater emphasis is necessary on maintaining either technical, cost, or schedule, then this section should also identify which is more important to be considered (e.g., it should address if the program is cost capped, or if schedule is paramount, or if it is critical to accomplish all of the technical objectives.) Programmatic success criteria such as KPPs, outcomes, and other accompanying performance indicators should be expressed in objective, quantifiable, and measurable form, where applicable. Include any safety requirements, where applicable.

2.2 Program Schedule

Provide a schedule of program activities and events covering the life of the program. Include all applicable events, such as approval dates for major program and project documents, dates of major project reviews, launch dates (or equivalent system "delivery" dates), and other NASA AA, MDAA, or MSOD decisions. Include all PCA milestones. Include the strategy for addressing schedule updates when impacts to the schedule occur.

2.3 Program Resources

All elements in full cost are to be included for each participating NASA Center, identify yearly New Obligational Authority (NOA) full cost estimates for system development and operations, facility construction, institutional support (including safety and mission assurance), and management (if applicable). Address Civil Service workforce levels. Once program approval has been completed, this section will be a reference for reconciliation to Integrated Budget and Performance Document (IBPD) and Integrated Financial Management (IFM) data.

3.0 Subplans

3.1 Controls and Compliance

Describe the process by which the program assures compliance with NASA policies and directives, as well as other applicable requirements. Describe the process by which project requirements/objectives are validated for compliance with the program requirements/objectives. Describe the process for controlling changes and for updating the R&T PCA as a result of any changes. Indicate key program parameters (cost, schedule, and technical) which will require NASA AA, MDAA, MSOD, or Program Lead approval for change. Identify the reserves management strategy and approval authority to include identification of an Allowance for Program Adjustment (APA), if applicable. Describe the strategy for supporting and/or implementing independent assessments.

3.2 Relationships to Other Programs and Organizations

3.2.1 Internal: Describe the way the program will relate to other institutions within NASA (e.g., crosscutting technology efforts, space communications, and launch services). List

the internal agreements necessary for program success and projected dates of approval. This list may be maintained as a separate document that is referenced by the Program Plan and may be updated separate from the Program Plan (i.e., updates do not require formal revision to the Program Plan). This list should include those agreements that are concluded with the authority of the Program Lead, and reference those agreements concluded with the authority of the MDAA or MSOD.

3.2.2 External: Describe the way the program will relate to entities outside of NASA (e.g., interagency or international). List the external agreements necessary for program success and projected dates of approval. This list may be maintained as a separate document that is referenced by the Program Plan and may be updated separate from the Program Plan (i.e., updates do not require formal revision to the Program Plan). This list should include those agreements that are concluded with the authority of the Program Lead, and reference those agreements concluded with the authority of the NASA AA, MDAA, and/or MSOD.

3.3 Budget and Acquisition Strategy

Briefly describe the budget and acquisition approach to be applied at the program level toward each project. The respective roles, responsibilities, and relationships between the Government and its contractors, vendors, and/or partners are addressed, including a description of integration and surveillance responsibilities. If applicable, the use of cost caps or other cost control strategies should be addressed, as well as the strategy for initiation of new program elements. The amount of yearly funding reserves and at what level the reserves will be held should be stated, if applicable.

3.4 Cooperation and Commercialization

Identify opportunities for establishing partnerships with private industry, academia, or other governmental organizations to conduct dual use research, develop mutually beneficial technologies, and transfer results into NASA for mission use and the private sector for commercial application (if applicable).

3.5 Data Management and Distribution

Program data management planning is provided as either a section of this Program Plan or as a separate document (if applicable). It should address the data being captured by all projects within the program and their availability. The plan should document how the results of R&T efforts will be disseminated, and it should also document if there are restrictions that limit or prevent the ability to disseminate data in accordance with NPR 2200.2, Requirements for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information.

3.6 Risk Management Strategy

Summarize the risk management approach to be used for the program, including appropriate actions to mitigate risk and program de-scope plans. Also, identify primary risks. If required, list any program elements that will develop their own stand alone risk and safety plans (see section 3.3.3.7, 3.3.3.8, and 3.3.3.9).

3.7 Reviews and Optional KDPs

List the reviews that the program will conduct, including Independent Assessments, program status reviews, and others in response to MDAA, MSOD, or governing PMC requirements. Include the timeline for these reviews. Provide the technical, scientific,

schedule, cost, and other criteria, which will be utilized in the reviews. Identify any optional KDPs (KDP II, III, IV, etc.) required by the DA during Implementation. This should include determination of gate products required prior to the optional KDPs. Further, discuss how any projects associated with the program will be held to independent reviews as well.

3.8 Waivers

Identify known waivers that the program will obtain against NASA policies, directives, or other applicable external requirements. Provide rationale and risk impact for the waivers, include characteristics such as scope, complexity, visibility, cost, and safety.

3.9 Change Log

Document changes to the Program Plan.

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